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IS 15826 (2008): Tassar reeling cum twisting machine reeled yarn - Grading and methods of tests [TXD 28: Silk and Silk Products]

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चर्खीनुमा एवं ऐंठन देने वाली मशीन पर कता तस्सर का धागा — ग्रेडिंग और परीक्षण पद्धतियाँ

Indian Standard

TASSAR REELING CUM TWISTING MACHINE REELED YARN — GRADING AND METHODS OF TESTS

ICS 59.060.10; 59.080.20

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

November 2008 **Price Group 2**

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Silk and Silk Products Sectional Committee had been approved by the Textile Division Council.

The quality of *Tassar* silk fabric depends to a large extent on the quality of yarn from which it is manufactured. The *tassar* silk yarn quality is dependent on total winding breaks, C.V of size, maximum deviation, C.V of twist, cohesion, tenacity, elongation and cleanness which are the parameters used for its grading. This standard specifies four grades as I, II, III and IV. Grade I is the highest and Grade IV is of the lowest in order of merit.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TASSAR REELING CUM TWISTING MACHINE REELED YARN — GRADING AND METHODS OF TESTS

1 SCOPE

This standard prescribes method of grading of *Tassar* yarn reeled on reeling cum twisting machine.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of standards indicated below:

IS No.	*Title*
IS 832 : 1985	Method for determination of twist in yarn (*first revision*)
IS 15090	Raw silk — Grading and methods of tests
(Part 2) : 2002	Visual and tactual examination (Superseding IS 2939)
(Part 4) : 2002	Conducting winding test (Superseding IS 2941)
(Part 5) : 2002	Determination of size (count) deviation and maximum deviation (Superseding IS 2942)
(Part 7) : 2002	Determination of evenness variation (superseding IS 2944)
(Part 8) : 2002	Determination of cleanness (Superseding IS 2945)
(Part 9) : 2002	Determination of neatness and low neatness (Superseding IS 2946)
(Part10) : 2002	Determination of tenacity and elongation by serigraph method (Superseding IS 2947)
(Part 11) : 2002	Determination of cohesion (Superseding IS 2948)
SP 45 : 2006	Handbook on glossary of textile terms (*first revision*)

3 TERMINOLOGY

For the purpose of this standard, following definitions in addition to those given in SP 45 shall apply.

3.1 *Tassar* Reeling cum Twisting Machine — A device that unwinds the filaments from a group of cocoons and imparts twist before winding the yarn on the bobbins mounted on a rotating spindle in one operation.

3.2 *Tassar* Reeling cum Twisting Machine Reeled Yarn — Yarn reeled on the reeling cum twisting machine from *tassar* cocoon filaments with low twist of about 350 TPM.

3.3 Hank — Silk reeled and removed from a reeling machine in the form of an open band. It shall be one continuous thread made by tying all breaks with good, clean knots, with the loose ends cut not more than 3 mm long. The outside end of the thread shall be tied round the hank in such a manner as to be easily found. The hank shall be laced at places equally spaced with a fine soft twisted cotton or spun silk yarn passed through at least two diamonds in the width of the hank, tied such that the knot is about 1 cm from the edge of the hank and the loose ends ought not to exceed 1 cm from the knot.

4 GRADES

The *tassar* silk shall have Grades I, II, III and IV. Grade I is the highest and Grade IV is of the lowest in order of merit.

5 EXAMINATION AND TESTS

5.1 Unit of Grading

5.1.1 The examination and tests shall be conducted on the lot of *tassar* raw silk offered for grading. The lot shall not be less than 10 kg and not more than 20 kg. In case the lot size is more than 20 kg, the lot shall be divided in two or more lots of 10 to 20 kg.

5.2 Examination and Tests

5.2.1 Each lot shall be examined visually and tactually according to the method prescribed in IS 15090 (Part 2).

5.2.2 Each lot shall be evaluated for the characteristics listed in Table 1.

6 METHOD OF CLASSIFICATION

6.1 Merit points of 3, 2, 1 and 0 shall be awarded for each parameter as given in Table 2. The total points for the lot shall be calculated by adding the individual

Table 1 Characteristics and Methods of Tests
(*Clause* 5.2.2)

Sl No.	Characteristic	Method of Test, Ref to IS
(1)	(2)	(3)
i)	Total winding breaks	15090 (Part 4)
ii)	C.V of size	15090 (Part 5)
iii)	Maximum deviation	15090 (Part 5)
iv)	C.V of twist	832
v)	Evenness variation I	15090 (Part 7)
vi)	Evenness variation II	15090 (Part 7)
vii)	Evenness variation III	15090 (Part 7)
viii)	Cleanness	15090 (Part 8)
ix)	Neatness	15090 (Part 9)
x)	Tenacity	15090 (Part 10)
xi)	Elongation	15090 (Part 10)
xii)	Cohesion	15090 (Part 11)

merit points for the 12 characteristics listed in Table 2. Based on the total points, the grade shall be allotted as per Table 3.

Table 3 Classification Table for Reeling cum Twisting Machine Reeled *Tussar* Yarn
(*Clause* 6.1)

Sl No.	Total Points	Grade
(1)	(2)	(3)
i)	35 and above	I
ii)	26-34	II
iii)	18-25	III
iv)	17 and below	IV

6.2 In case the result of the visual inspection of a lot is found to be 'Poor' in its uniformity and/or its general finish, the grade of the lot shall be one below that as determined in accordance with the **6.1**.

7 REPORT

The proforma as given in Annex A shall be used for issue of certificate of grading.

Table 2 Table of Merit Points for Classification
(*Clause* 6.1)

Sl No.	Characteristic	Merit Points for Classification			
		3	2	1	0
(1)	(2)	(3)	(4)	(5)	(6)
i)	Total winding breaks	13 or below	14 to 23	24 to 37	Above 37
ii)	C.V of size, percent	16	18	20	>20
iii)	Maximum deviation (den)	24	30	36	>36
iv)	C.V of twist, percent	16	18	20	>20
v)	Evenness variation I (No. of stripes)	50	120	200	>200
vi)	Evenness variation II (No. of stripes)	10	50	100	>100
vii)	Evenness variation III (No. of stripes)	0	20	50	>50
viii)	Cleanness, percent	80	70	60	<60
ix)	Neatness, percent	90	80	70	<70
x)	Tenacity (g/den)	2.8	2.3	1.7	<1.7
xi)	Elongation, percent	25	22	18	<18
xii)	Cohesion (No. of strokes)	45	30	15	<15

ANNEX A

(*Clause* 7)

REPORT OF GRADING OF *TASSAR* REELING CUM TWISTING MACHINE REELED SILK YARN

(Conducted in accordance with IS 15826)

Name of testing house: ....

Grading certificate No.: ....
Identity of the lot: ....
Average size: ....
Visual examination: ....

Sl No.	*Test Parameter*	*Value*	*Merit Points*
i)	Total winding breaks		
ii)	C.V of size		
iii)	Maximum deviation		
iv)	C.V of twist		
v)	Evenness variation I		
vi)	Evenness variation II		
vii)	Evenness variation III		
viii)	Cleanness		
ix)	Neatness		
x)	Tenacity		
xi)	Elongation		
xii)	Cohesion		
	Total		

Remarks:
Date:

Authorized Signatory

ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Silk and Silk Products Sectional Committee, TXD 28

Organization	*Representative(s)*
Central Silk Technological Research Institute, Bangalore	Dr T. H. Somashekar (***Chairman***) Shri Subrato Roy (*Alternate*)
Association of Corporations & Apex Societies of Handlooms, New Delhi	Shri Abdual Rehman
Central Silk Board, Bangalore	Deputy Secretary (Inspection) Assistant Secretary (Inspection) (*Alternate*)
Chamundi Textiles (Silk Mills) Limited, Bangalore	Shri A. L. Muthiah
Directorate of Handlooms & Textiles, Government of Tamil Nadu, Chennai	Shri Thiru M. E. Balraj
Himatsingka Seide Limited, Bangalore	Shri Mohan Rao Shri S. A. Vishvanath (*Alternate*)
Indian Silk Export Promotion Council, Mumbai	Shri T. V. Maruthi
Karnataka Silk Industries Corporation, Bangalore	Shri Raj Kumar
Karnataka State Sericulture Development Institute, Bangalore	Shri V. G. Halliyal Shri Ravindra Bhandiwad (*Alternate*)
Khadi & Village Industries Commission, Mumbai	Representative
National Handloom Development Corporation Ltd, Lucknow	Shri V. K. Goyal Shri S. Rautela (*Alternate*)
Office of Development Commissioner for Handlooms Government of India, New Delhi	Principal, Indian Institute of Handloom Technology, Salem
Office of Director of Handloom & Textiles, Government of Karnataka, Bangalore	Joint Director (Textiles) Deputy Director (Handlooms) (*Alternate*)
Office of the Textile Commissioner, Mumbai	Shri S. G. Verma Shri S. Ramakrishnan (*Alternate*)
Shriram Institute for Industrial Research, Delhi	Ms Neena Sehgal Dr R. K. Raina (*Alternate*)
Silk Conditioning and Testing House, Bangalore	Representative
The Tamil Nadu Handloom Weaver's Cooperative Society Ltd, Chennai	Shri G. Gunasekaran Shri Alok Babelay (*Alternate*)
Weavers' Service Centre, Ministry of Textiles, Bangalore	Director Deputy Director (*Alternate*)
BIS Directorate General	Shri M. S. Verma, Scientist 'F' & Head (TXD) [Representing Director General (*Ex-officio*)]

Member Secretary
Shri J. K. Gupta
Scientist 'C' (TXD), BIS

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